

WHAT IS CLAIMED IS:

1. A coordinate input apparatus which detects position coordinates of a coordinate input pointing tool, comprising:

5 calculation means for calculating position coordinates in a space defined by first to third axes of the coordinate input pointing tool;

comparison means for comparing a value of the first axis of the coordinate values calculated by the
10 calculation means with a predetermined value;

determination means for determining whether the coordinate values of the second and third axes of the coordinate values calculated by the calculation means fall within a predetermined range; and

15 output means for outputting the coordinate values calculated by the calculation means in a coordinate output form determined on the basis of a comparison result by the comparison means and a determination result by the determination means,

20 wherein the coordinate output form includes at least

an absolute coordinate output form in which the calculated coordinate values are directly output, and

a relative coordinate output form in which
25 differential values between the calculated coordinate values and predetermined coordinate values are output.

2. The apparatus according to claim 1, wherein

the predetermined coordinate values are first effective coordinate values during a continuous input period in which coordinate input is continuously executed, and

5 the apparatus further comprises storage means for storing the first effective position coordinates calculated by said calculation means during the continuous input period as the predetermined coordinate values.

10 3. The apparatus according to claim 1, wherein the apparatus further comprises a display apparatus which is overlapped on the coordinate input apparatus, and

 the first axis defines a normal direction to a display area plane of the display apparatus, and the second and third axes define the display area plane of the display apparatus.

4. The apparatus according to claim 1, wherein the coordinate output form further includes a relative coordinate processing output form in which at least a differential coordinate value between the coordinate value of the second axis and the predetermined coordinate value is multiplied and output.

5. The apparatus according to claim 4, wherein the apparatus further comprises a display apparatus which is overlapped on the coordinate input apparatus, and

the first axis defines a normal direction to a display area plane of the display apparatus, the second axis defines a horizontal direction of the display area plane of the display apparatus, and the third axis
5 defines a vertical direction of the display area plane of the display apparatus.

6. The apparatus according to claim 4, wherein a magnification factor of the multiplication of the differential coordinate value in the relative
10 coordinate processing output form is set on the basis of the coordinate value of the first axis.

7. The apparatus according to claim 4, wherein a magnification factor of the multiplication of the differential coordinate value in the relative
15 coordinate processing output form is set on the basis of the position coordinates.

8. A coordinate input apparatus which detects position coordinates of a coordinate input pointing tool and displays information based on the position
20 coordinates on a display apparatus, comprising:

calculation means for calculating the position coordinates of the coordinate input pointing tool;

determination means for determining whether the position coordinates calculated by said calculation
25 means fall within a display area of the display apparatus; and

determination means for determining on the basis

of a determination result whether the position coordinates or differential coordinate values between the position coordinates and predetermined coordinates should be output.

5 9. The apparatus according to claim 8, further comprising setting means for setting the display area of the display apparatus.

10 10. The apparatus according to claim 9, wherein said setting means sets the display area on the basis of coordinate values of at least three display area corner portions of the display area.

11. The apparatus according to claim 9, wherein the apparatus further comprises switch state determination means for determining operative states of a plurality of switches of the coordinate input pointing tool, and

15 said coordinate output control means outputs the position coordinates or the differential coordinate values between the position coordinates and the predetermined coordinates or inhibits output of the position coordinates on the basis of the determination result of said determination means and a determination result of said switch state determination means.

12. The apparatus according to claim 9, wherein
25 the predetermined coordinates are first effective coordinate values during a continuous input period in which coordinate input is continuously executed, and

the apparatus further comprises storage means for storing the first effective position coordinates calculated by said calculation means during the continuous input period as the predetermined
5 coordinates.

13. A control method of a coordinate input apparatus which detects position coordinates of a coordinate input pointing tool, comprising:

a calculation step of calculating position
10 coordinates in a space defined by first to third axes of the coordinate input pointing tool;

a comparison step of comparing a value of the first axis of the coordinate values calculated in the calculation step with a predetermined value;

15 a determination step of determining whether the coordinate values of the second and third axes, which are calculated in the calculation step, fall within a predetermined range; and

an output step of outputting the coordinate
20 values calculated in the calculation step in a coordinate output form determined on the basis of a comparison result in the comparison step and a determination result in the determination step,

wherein the coordinate output form includes at
25 least

an absolute coordinate output form in which the calculated coordinate values are directly output, and

a relative coordinate output form in which differential values between the calculated coordinate values and predetermined coordinate values are output.

14. A control method of a coordinate input apparatus
5 which detects position coordinates of a coordinate input pointing tool and displays information based on the position coordinates on a display apparatus, comprising:

a calculation step of calculating the position
10 coordinates of the coordinate input pointing tool;

a determination step of determining whether the position coordinates calculated in the calculation step fall within a display area of the display apparatus;
and

15 a determination step of determining on the basis of a determination result whether the position coordinates or differential coordinate values between the position coordinates and predetermined coordinates should be output.

20 15. A program which causes a computer to function to control a coordinate input apparatus which detects position coordinates of a coordinate input pointing tool, comprising:

a program code for a calculation step of
25 calculating position coordinates in a space defined by first to third axes of the coordinate input pointing tool;

a program code for a comparison step of comparing a value of the first axis of the coordinate values calculated in the calculation step with a predetermined value;

5 a program code for a determination step of determining whether the coordinate values of the second and third axes, which are calculated in the calculation step, fall within a predetermined range; and

a program code for an output step of outputting
10 the coordinate values calculated in the calculation step in a coordinate output form determined on the basis of a comparison result in the comparison step and a determination result in the determination step,

wherein the coordinate output form includes at
15 least

an absolute coordinate output form in which the calculated coordinate values are directly output, and

a relative coordinate output form in which differential values between the calculated coordinate
20 values and predetermined coordinate values are output.

16. A program which causes a computer to function to control a coordinate input apparatus which detects position coordinates of a coordinate input pointing tool and displays information based on the position
25 coordinates on a display apparatus, comprising:

a program code for a calculation step of calculating the position coordinates of the coordinate

input pointing tool;

5 a program code for a determination step of
determining whether the position coordinates calculated
in the calculation step fall within a display area of
the display apparatus; and

10 a program code for a coordinate output control
step of outputting the position coordinates or
differential coordinate values between the position
coordinates and predetermined coordinates on the basis
of a determination result.